DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-000522
Date Inspected: 22-Sep-2007

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name: Cui Yi Ru, Ye Yongjun and Fu Yuan Ling

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: 89 and 114 meter mock-up

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

114 Meter Mockup-skin plate D:
QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Wu Zhibin ID #049804 groove welding joining piece #mp101 to MA110 sub assembly MA110 weld joint #2. Mr. Zhibin was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.8mm diameter electrode, filler metal brand LA-85, class Eni5 machine. QA Inspector Brannon observed the ZPMC QC Inspector Cui Yi Ru verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 110°C and measured the welding parameters to be 630 amps and 28 volts. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-3221-B-P3-S, Revision 0.

114 Meter Mockup-skin plate B:
QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening on skin plate B sub assembly MA102. QA Inspector Brannon observed the ZPMC QC Inspector Cui Yi Ru observing the process.

114 Meter Mockup-Interior Corner Assembly A116:
QA Inspector Brannon randomly observed ZPMC qualified welders Mr. Chen Ruyang ID #066726 and Mr. Guo Dengyun ID#037997 tack welding joining piece #P918 & P919 toA116, weld joints 1 & 2. Mr. Ruyang and Mr.

Dengyun was observed welding in the 1G (flat) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand TL-508, class E7018 manual. QA Inspector Brannon observed the ZPMC QC Inspector Ye Yongjun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 110°C and measured the welding parameters to be 175/160 amps respectively. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2211-B-U3b, Revision 1.

89 Meter Mockup-Façade Face E:
QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Wang Zhonghua ID #053753 tack welding joining piece #P201to MA33. Mr. Zhonghua was observed welding in the 2F (horizontal) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand TL-508, class E7018 manual. QA Inspector Brannon observed the ZPMC QC Inspector Ye Yongjun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 110°C and measured the welding parameters to be 155 amps. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2111, Revision 1.

NDT (VT/MT): QA Inspector, Brannon observed ZPMC Magnetic Particle Testing Technician Mr. Zhou Dongyun, at the 114 Meter Mockup-Skin Plate D Sub Assembly-MA110 weld joint #2 performing magnetic particle testing (MT) on the root pass weld for weld joint #2, one hundred percent of the root weld was inspected by Mr. Zhou Dongyun. QA Inspector Brannon performed random visual inspection (VT) and magnetic particle testing (MT) on the root pass weld for weld joint #2. During the random magnetic particle testing, QA Inspector Brannon observed three indications with lengths varying from 10 to 20 millimeter in the root pass of the partial joint penetration weld joint #2 after it was accepted by ZPMC magnetic particle testing Technician Mr. Zhou Dongyun. QA Inspector Brannon informed Mr. Dongyun of these findings. Mr. Dongyun elected to re-examine the area and then instructed ZPMC personnel to grind the areas identified by the QA Inspector. After grinding of the areas, Mr. Dongyun re-examined the areas and stated that it was acceptable. QA Inspector Brannon also, re-examined areas in question. See Caltrans Magnetic Particle Test Report, TL-6028 dated September 22, 2007 for additional information.

NDT (VT/MT): QA Inspector Brannon performed random visual inspection (VT) and magnetic particle testing on the root pass for the 114 meter mock-up skin plate D, sub assembly MA113 weld joints #6 & 7. See Caltrans Magnetic Particle Test Report, TL-6028 dated September 22, 2007 for additional information.

The following digital photograph illustrates the Interior corner assembly A116 for the 114 meter mock-up.

WELDING INSPECTION REPORT

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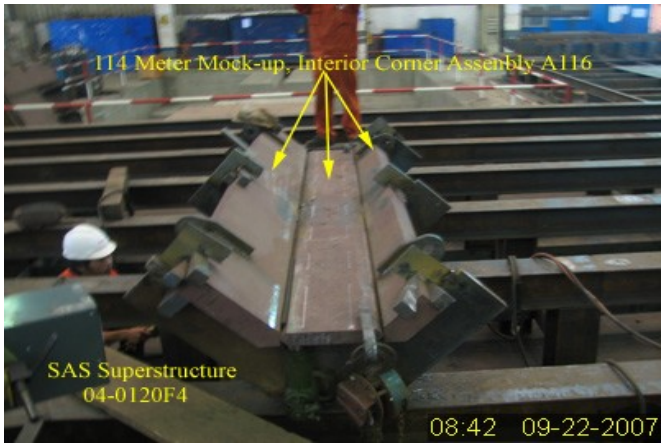

Summary of Conversations:

No revelant conversations on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Brannon,Sherri	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer